E/ECE/324
E/ECE/TRANS/505 } Rev.1/Add.98/Amend.1

11 August 1998

AGREEMENT

CONCERNING THE ADOPTION OF UNIFORM TECHNICAL PRESCRIPTIONS FOR WHEELED VEHICLES, EQUIPMENT AND PARTS WHICH CAN BE FITTED AND/OR BE USED ON WHEELED VEHICLES AND THE CONDITIONS FOR RECIPROCAL RECOGNITION OF APPROVALS GRANTED ON THE BASIS OF THESE PRESCRIPTIONS */

(Revision 2, including the amendments entered into force on 16 October 1995)

Addendum 98: Regulation No. 99

Amendment 1

Supplement 1 to the original version of the Regulation - Date of entry into force: 7 May 1998

UNIFORM PROVISIONS CONCERNING THE APPROVAL OF GAS-DISCHARGE LIGHT SOURCES FOR USE IN APPROVED GAS-DISCHARGE LAMP UNITS OF POWER-DRIVEN VEHICLES

UNITED NATIONS

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*/ Former title of the Agreement:

Agreement Concerning the Adoption of Uniform Conditions of Approval and Reciprocal Recognition of Approval for Motor Vehicle Equipment and Parts, done at Geneva on 20 March 1958.

GE.98-22494

Paragraph 2.4.4.1., footnote 3/, amend to read:

"3/ ..... 30 (vacant), 31 for Bosnia and Herzegovina, 32-36 (vacant), 37 for Turkey, 38-39 (vacant) and 40 for The former Yugoslav Republic of Macedonia. Subsequent numbers ..... to the Agreement Concerning the Adoption of Uniform Technical Prescriptions for Wheeled Vehicles, Equipment and Parts which can be Fitted and/or be Used on Wheeled Vehicles and the Conditions for Reciprocal Recognition of Approvals Granted on the Basis of these Prescriptions, ..."

List of contents, annexes, annex 1, amend to read:

"Annex 1 - Sheets D1S/D2S
Sheets D1R/D2R"

Annex 1,

Data sheets D2R/1 to D2R/6 (former), replace by the new data sheets D1R/D2R/1 to D1R/D2R/6, to read:

Categories D1R and D2R — Sheet D1R/D2R/1

The drawings are intended only to indicate the essential dimensions of the gas-discharge light source

Figure 1 — Category D1R — Type with cables — Cap PK 32d-3

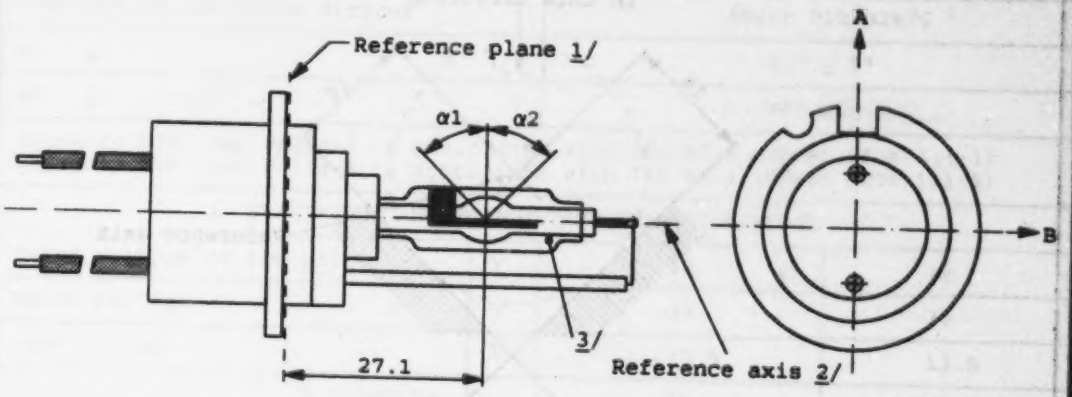
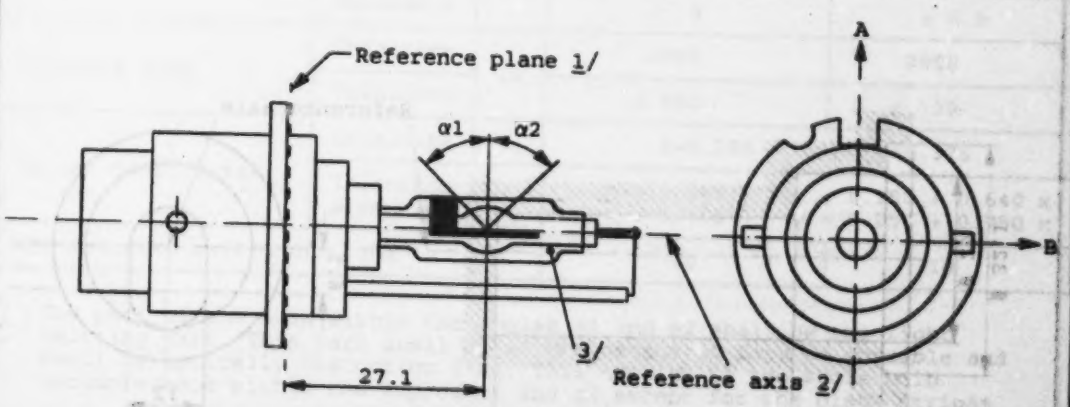


Figure 2 — Category D2R — Type with connector — Cap P 32d-3



1/ The reference plane is defined by the positions on the surface of the holder on which the three supporting bosses of the cap ring will rest.

2/ See sheet D1R/D2R/2.

3/ With respect to the reference axis, when measured at a distance of 27.1 mm from the reference plane the eccentricity of the outer bulb shall be less than ± 0.5 mm in direction B and less than + 1 mm - 0.5 mm in direction A.

Figure 3
Definition of reference axis 1/

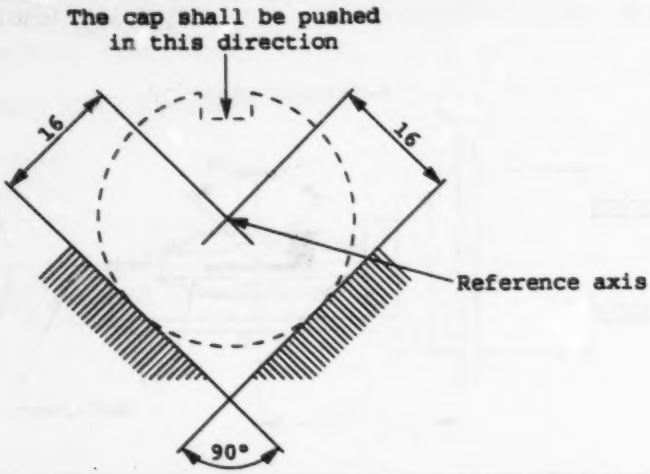
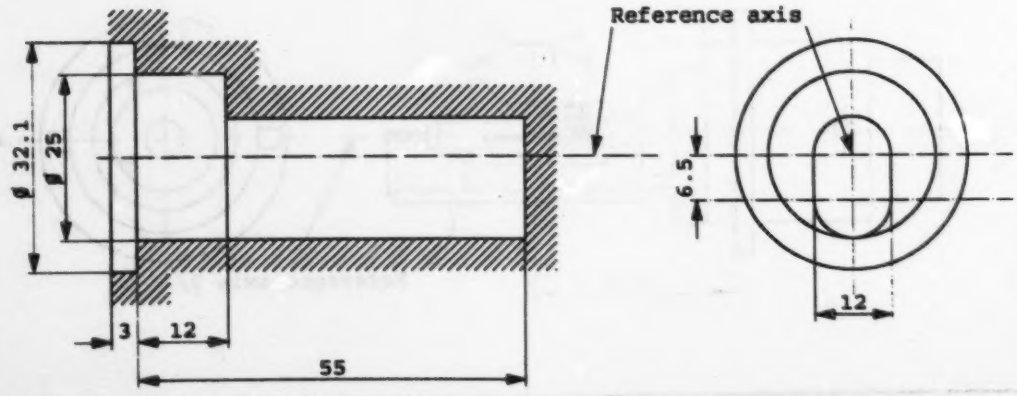


Figure 4
Maximum lamp outline 2/



1/ The reference axis is perpendicular to the reference plane and crosses the intersection of the two parallel lines as indicated in figure 3.

2/ Glass bulb and supports shall not exceed the envelope, as indicated in figure 4. The envelope is concentric with the reference axis.

Categories D1R and D2R — Sheet D1R/D2R/3

Dimensions			Production light sources	Standard light sources
Position of the electrodes			Sheet D1R/D2R/4	
Position and form of the arc			Sheet D1R/D2R/5	
Position of the black stripes			Sheet D1R/D2R/6	
α1 1/			45° ± 5°	
α2 1/			45° min	
Category D1R: cap PK32d-3 in accordance with IEC 61-1 (sheet 7004-111-1) Category D2R: cap P 32d-3 in accordance with IEC 61-1 (sheet 7004-111-1)				
ELECTRICAL AND PHOTOMETRIC CHARACTERISTICS				
Rated voltage of the ballast		V	12 2/	12
Rated wattage		W	35	35
Test voltage		V	13.5	13.5
Lamp voltage	Objective	V	85	85
	Tolerance		± 17	± 8
Lamp wattage	Objective	W	35	35
	Tolerance		± 3	± 0.5
Luminous flux	Objective	lm	2800	2800
	Tolerance		± 450	± 150
Colour coordinates	Objective		x=0.375	y=0.375
	Tolerance area 3/		x ≥ 0.345 y ≤ 0.150 + 0.640 x x ≤ 0.405 y ≥ 0.050 + 0.750 x	
Hot-restrike switch-off time		s	10	10

1/ The part of the bulb within the angles α1 and α2 shall be the light emitting part. This part shall be as homogenous in form as possible and shall be optically distortion free. This applies to the whole bulb circumference within the angles α1 and α2 except for the black stripes.

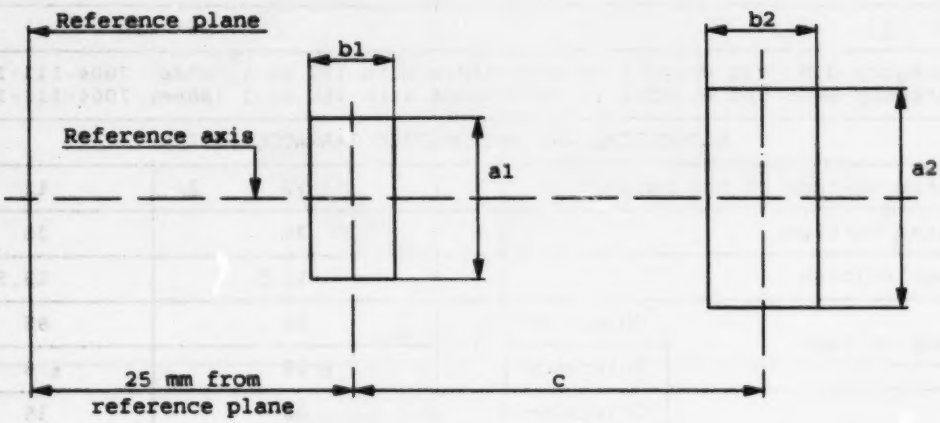
2/ Application voltages of ballasts may differ from 12 V.

3/ See Annex 4.

Categories D1R and D2R Sheet D1R/D2R/4

Position of electrodes

This test is used to determine whether the electrodes are correctly positioned relative to the reference axis and the reference plane.



Measuring direction A and B as defined on sheet D1R/D2R/1

Dimension in mm	Production light sources	Standard light sources
a1	d + 0.5	d + 0.2
a2	d + 0.7	d + 0.35
b1	0.4	0.15
b2	0.8	0.3
c	4.2	4.2

d=diameter of the electrode < 0.3

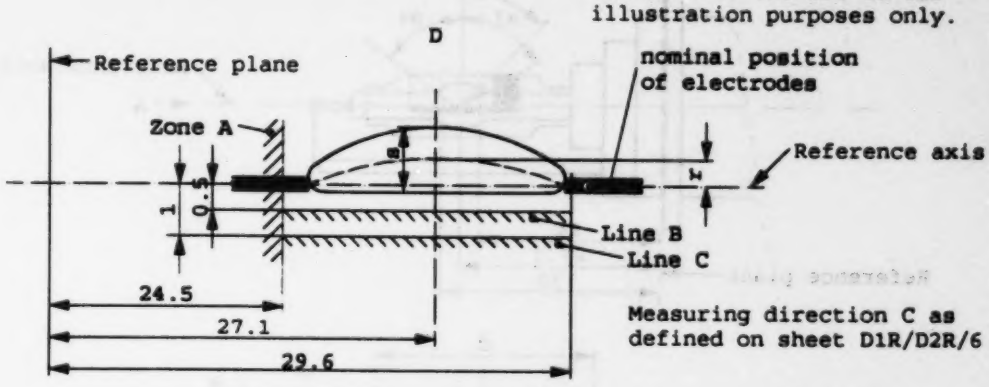
The top of the electrode nearest to the reference plane shall be positioned in the area defined by a1 and b1. The top of the electrode furthest from the reference plane shall be positioned in the area defined by a2 and b2.

Categories D1R and D2R — Sheet D1R/D2R/5

Position and form of the arc

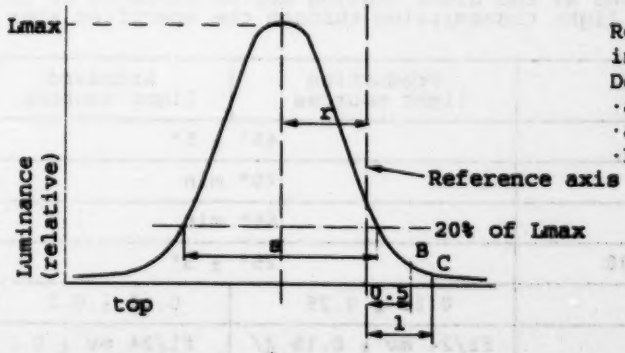
This test is used to determine the form and sharpness of the arc and its position relative to the reference axis and plane by measuring its bending and diffusion in the central cross section D and by measuring stray light intensities in zone A and at lines B and C.

The form of the arc is for illustration purposes only.



When measuring the relative luminance distribution in the central cross section D as indicated in the drawing above, the maximum value Lmax has the distance r from the reference axis. The points of 20% of Lmax have the distance s, as shown in the drawing below.

Dimension in mm	Production light sources	Standard light sources
r	0.50 ± 0.25	0.50 ± 0.20
s	1.10 ± 0.25	1.10 ± 0.25



Relative luminance distribution in the central cross section D.
Determination of:
- arc bending r
- arc diffusion s
- Luminance Lmax

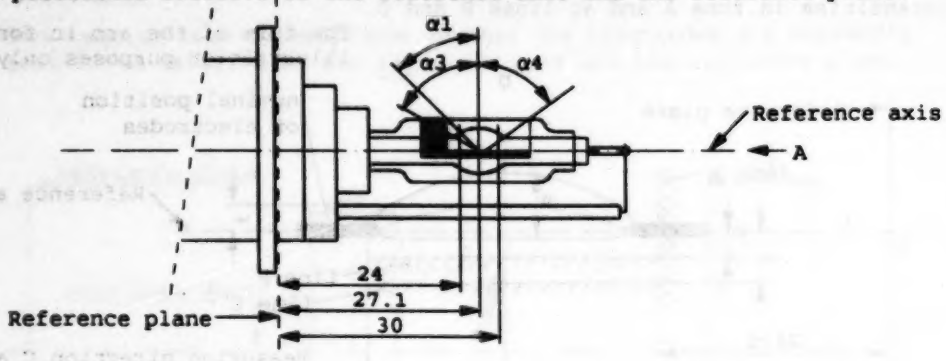
When measuring the luminances from measuring direction B as defined on sheet D1R/D2R/6 with a set-up as outlined in Annex 5, however with a circular field of 0.2M mm diameter, the relative luminance expressed as a percentage of Lmax (at cross section D) shall be:

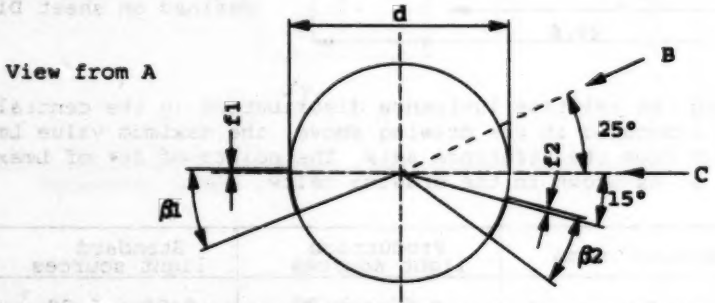
Zone A	≤ 4.5 %	Line B	≤ 15 %	Line C	≤ 5.0 %

The area of zone A is defined by the black coating, the outer bulb and a plane at 24.5 mm from the reference plane.

Position of the black stripes

This test is used to determine whether the black stripes are correctly positioned relative to the reference axis and the reference plane.





When measuring the luminance distribution of the arc in the central cross section as defined on sheet D1R/D2R/5, after having turned the light source so that the black stripe is covering the arc, the measured luminance shall be ≤ 0.5 % of Lmax.
In the area defined by α1 and α3 the black coating may be replaced by any other means which prevents light transmission through the specified area.

Dimensions	Production light sources	Standard light sources
α1	45° ± 5°	
α3	70° min	
α4	65° min	
β1/24, β1/30, β2/24, β2/30	25° ± 5°	
f1/24, f2/24 1/	0.15 ± 0.25	0.15 ± 0.2
f1/30 1/	f1/24 mv ± 0.15 2/	f1/24 mv ± 0.1
f2/30 1/	f2/24 mv ± 0.15 2/	f2/24 mv ± 0.1
f1/24 mv - f2/24 mv	± 0.3 max	± 0.2 max
d	9 ± 1	

1/ "f1/.." means dimension f1 to be measured at the distance from the reference plane indicated in mm after the stroke.

2/ "../24 mv" means the value measured at a distance of 24 mm from the reference plane.